Career Concerns and "Unpaid" Executives*

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Abstract: A significant portion of CEOs in publicly-listed Chinese state-owned enterprises receive zero pay from the companies for which they work. Instead, they are paid directly by their controlling shareholder, which can be the Chinese government or parent firms that are controlled by the Chinese government. We explore how these "unpaid" executives are motivated and whether the outcomes of this unusual incentive mechanism differ from the conventional approach. Consistent with career concerns as their main incentive mechanism, we find that these CEOs have a significantly higher probability of future promotion than other CEOs. This result holds when we look at subsamples in which individual CEOs switch payment regimes. We also find that compared to their peers with paid CEOs, firms with unpaid CEOs in general have higher return on assets, higher asset turnover, higher asset growth, and engage in less tunneling. To mitigate concerns of that our results are driven by CEO selection and to further investigate the use of implicit incentives, we conduct an event study using the Split Share Structure Reform in 2006. The Reform liberalized the Chinese stock market, thus strengthening the role of the market as an incentive mechanism. This mechanism provides a potential replacement for promotion incentives. Our evidence is generally consistent with a reduction in the strength of promotion incentives following the reform.

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1. Introduction

A surprisingly high portion of the executives of publicly-listed Chinese state-owned enterprises (SOEs) do not receive any compensation from the firms for which they work. During our sample period 1999-2011, almost 40% of the highest ranked executives in publicly-listed Chinese SOEs received zero pay, i.e., the pay disclosed for these executive officers/directors in company filings with the Chinese stock exchange is zero.[1] Rather than being paid by the publicly-listed companies that officially employ them, most of these "unpaid" executives are actually paid by their controlling shareholder. Controlling shareholders are either a government agency or a parent company that is affiliated with and controlled by the government. Compared to their peers that are directly paid by the publicly-listed companies, compensation of the unpaid executives can be significantly lower in level and contains very few performance-based incentives.[2] This means that the SOEs likely use strategies other than typical explicit incentive schemes to motivate the CEOs to perform.

This unusual pay arrangement has attracted a lot of criticism from the Chinese popular press, which often cites it as an example of the underdeveloped nature of the market system in China. For example, *Business* magazine warned against the "terrible" zero pay, claiming that resulting disincentives could lead to worse consequences than overly high pay (Ma, 2009). *Securities Daily* reported that 346 CEOs of publicly-listed firms received zero pay in year 2012, and therefore "may not care about firm performance" (Jiao, 2013). More recently, *China Securities Journal* pointed out the executives in almost 300 firms received zero compensation, while their peers in other firms enjoyed a significant raise (Dai, 2016). Despite the criticism, it is

[1] What we refer as "unpaid" here in the paper differs from the case of undisclosed pay. When a firm chooses not to disclose the pay of an executive, the database reports the corresponding pay level as "undisclosed".
[2] The compensation of Chinese government employees follows a strictly pre-defined system, largely determined by the functions and rank of the position held. Even though the bonus part of the government employee pay may vary with performance, its incentive effect is very weak compared to performance-based compensation in private sectors.

unclear whether such compensation practices actually result in any loss of efficiency, since no systematic study has examined the issue empirically.

In this paper, we investigate how implicit incentives may motivate the unpaid executives and whether the outcomes of using this unusual incentive mechanism differ from a conventional explicit incentive approach. Specifically, we ask four related research questions: 1) Do unpaid executives have stronger implicit incentives through a higher probability of promotion? 2) Do these implicit incentives for unpaid CEOs result in better performance? 3) Are unpaid CEOs more likely to expropriate company resources for the controlling shareholders? and 4) Do improvements in market mechanisms such as the Split Share Structure Reform of 2006 change the extent and effectiveness of promotion incentives for unpaid CEOs?

We first hypothesize that unpaid executives are incentivized through career concerns, an implicit incentive related to "concerns about the effect of current performance on future compensation" (Gibbons and Murphy, 1992, p. 468). Career concerns can be manifested through consideration of one's reputation, hope for future promotion, avoidance of job termination, etc. In our paper, we define the Chinese executives' career concerns as the probability of being promoted to a higher-level position. Fama (1980) suggests that competition in the labor market alone might be sufficient to give managers enough incentives without explicit agency contracts. Holmstrom (1982) models career concerns through a two-period game, and shows that the agent's pay in the first period can be devoid of any performance-based incentive for him to be sufficiently motivated for the expected reward in the second period. In fact, many jobs such as politicians and other government officials are not incentivized by performance-based pay, but rather are disciplined and motivated by career concerns (Dewatripont et al. 1999).

Using a dataset of 8602 SOE firm-years between 1999 and 2011, we find that relative to paid CEOs, unpaid CEOs have a three times higher probability of receiving a promotion in the following year. To isolate the incentive differences between paid and unpaid CEOs, our models control for CEO political connections and other individual characteristics, as well as firm performance. Our results validate the conjecture that unpaid CEOs have a stronger implicit incentives related to future promotion. Further robustness tests rule out the possibility that the higher promotion probabilities we find for unpaid CEOs are driven by selection of superior quality CEOs for the unpaid contracts.

We next examine performance outcomes related to use of career concerns as a managerial incentive. Theory predicts that career concerns can be as effective as conventional incentives such as performance-based pay. We investigate various measures of performance of SOE firms with unpaid executives and their paid peers, controlling for factors that may contribute to differences in firm performance. Contrary to the concerns raised by the Chinese popular press, we do not find any evidence that the performance outcome of firms with unpaid CEOs is inferior to their peers with paid CEOs. In fact, we find that firms with unpaid executives tend to have higher return on assets, higher asset turnover, and higher asset growth.[3] This result indicates that career concerns can be an effective incentive mechanism.

We also explore a potential downside of having an unpaid CEO for minority shareholders. Prior research shows that Chinese SOEs are involved in "tunneling" activities, which implies the transfer of resources from publicly-listed subsidiaries to the government-owned parent firm. Since unpaid executives are paid by the government or government-controlled parent firm, they

[3] We also examine the performance outcomes measured as stock returns, and growth in number of employees, but do not find any statistically significant differences between the two groups. Sales growth is marginally greater for the firms with unpaid CEOs.

may have an incentive to facilitate tunneling and help siphon funds from the publicly-listed firms to the controlling shareholder. However, we fail to find evidence that the firms with unpaid executives engage in more tunneling, as measured by net transfer to the parent firm and other accounting receivables. On the contrary, for the entire sample period, firms with unpaid CEOs exhibit less tunneling via transfers than firms with paid CEOs.

To more closely link our results to the composition of incentives, we conduct an event study using the Split Share Structure Reform in 2005 (hereafter, "Reform"). The Reform allows shares that were initially non-tradable (typically owned by the government) to become freely traded in the stock market. The Reform significantly mitigates conflicts between controlling shareholders and minority shareholders. It further privatizes and liberalizes the Chinese stock market, and has affected the Chinese financial market in many ways, such as improving market liquidity, operating efficiency and corporate governance (Li et al. 2011; Chen et al., 2012; Liao et al. 2014; Ke et al. 2015). The Reform strengthens the effects of external governance mechanisms such as takeovers and monitoring by other groups of shareholders, and thus reduces the need for internally generated incentive systems. We expect the implicit incentive effect on the unpaid executives to become weaker and their incentives become more similar to those of paid executives. The results of the analyses are generally consistent with our prediction. We find that the Reform reduced the probability of future promotion for unpaid CEOs. We find a decline in performance differences between firms with unpaid versus unpaid CEOs. We do not find any evidence supporting increased tunneling activities after the Reform.

Our paper makes several contributions to the extant literature. First, this paper provides a unique natural experiment to empirically examine the effectiveness of career concerns relative to explicit incentives through performance-based pay. Career concerns have been difficult to

examine with data from typical executive labor markets such as in North America, since it is essentially an unobservable variable at individual level. Empirical studies have provided support for the effectiveness of career concerns in various settings, such as mutual fund managers avoiding termination (Chevalier and Ellison 1999), CEOs near retirement seeking for board positions (Brickley et al, 1999), mid-level managers seeking promotions (Ederhof, 2011), and sports coaches who face intense labor market competition (Cadman and Gasser, 2014). However, prior research could only use inexact measures such as the executives' age and tenure to proxy for career concerns. In contrast, Chinese SOEs offer a unique setting where the paid and unpaid executives face different incentive methods and where we can control for individual characteristics.

Second, study of this unique aspect of the Chinese SOE compensation setting is also important. CEOs of almost 40% of the firms in our sample that have unpaid CEOs are generally omitted from research on Chinese compensation because their pay is not reported (e.g., Conyon and He 2011). This results in an incomplete picture in the literature of compensation practices and their impact on Chinese companies. Further, prior research has shown that the pay-performance sensitivity in Chinese firms is significantly lower than that of comparable American firms (i.e., Conyon and He 2011; Bryson et al. 2014). The managerial incentive through performance-based pay seems to be especially low in publicly-listed Chinese SOEs. We find evidence that career concerns can provide as strong (if not stronger) incentives as conventional performance-based pay. This incentive scheme does not appear to lead to anti-productive behaviors such as tunneling. Our findings thus provide some insights why Chinese SOEs perform well despite their seemingly inadequate use of typical managerial incentives.

Third, given the prevalence of business groups in emerging markets and some developed countries, our findings have implications for design of implicit incentives across the levels of organization for these business groups. Prior literature suggests the mixed findings on tunneling in business groups (e.g., Johnson et al. 2000; Bertrand et al. 2002; Siegel and Choudhury 2012; Buchuk et al. 2014). Our results of less tunneling by unpaid executives indicate that implicit incentives provided by business group may be a factor that explains the mixed findings.

Fourth, our study shows unexpected consequences of the Split-Share Structure Reform on implicit incentives of SOEs. Prior literature emphasizes efficiency gains from increased marketization of stemming from the Reform (i.e., Li et al. 2011; Chen et al., 2012; Liao et al. 2014). Our results indicate that the Reform has a negative impact on strength of career concern incentives of SOE executives and that subsequent to the Reform, firm performance differences between companies with paid and unpaid CEOs narrow.

2. Background and hypotheses development

2.1. Implicit Incentives via Career concerns

An economic agent can be motivated through various incentive schemes. An explicit incentive system typically includes a formal contract that specifies a pre-determined relation between the manager's performance and pay. Implicit incentives, such as career concerns, do not involve formal contracts. Instead, the agent exerts effort today in the hope for a reward tomorrow. This future reward could be a new job opportunity, a promotion, avoiding termination, or simply gaining a good reputation in the labor market. For example, a politician or a junior faculty member may work diligently in the hope of being reelected or being tenured, despite the lack of performance-based pay in their compensation.

Holmstrom (1982) models career concerns through a two-period game, in which the agent's pay in the second period depends on his performance in the first period. The agent must determine how much effort to exert in the first period to maximize his total utility across both periods. The principal tries to infer the agent's true ability from his first-period performance, and uses that information to determine his second-period pay. In equilibrium, the agent exerts positive effort even when his wages in both periods are fixed (zero pay-for-performance sensitivity). Note that the incentive provided by career concerns is not without flaws: the agent typically over-exerts effort earlier in their career and under-exerts later.

Empirical research on career concerns often uses age or job horizon as a proxy for strength of the incentive. For example, Gibbons and Murphy (1992) find that the general sensitivity of the executive's pay is significantly stronger for those who will retire soon than for those who still have many years to go before retirement. This is because younger executives have strong career concerns and can be motivated without performance-based pay. On the contrary, compensation for older executives must be explicitly linked to their performance for them to be motivated. Chevalier and Ellison (1999) study the behavior of mutual fund managers and their incentive to avoid termination. They find that the young fund managers demonstrate herding behavior to avoid unsystematic risk and stay in their jobs. Yim (2013) finds that younger CEOs are more aggressive in mergers and acquisitions, since acquisitions tend to significantly increase a CEO's future compensation.

Of course career concerns are not limited to young managers. For example, CEOs near retirement, who seek post-retirement board positions, demonstrate significantly better performance (Brickley et al, 1999). Ederhof (2011) finds evidence that mid-level managers, who

have weaker chance to be promoted to the top level, receive stronger bonus-based incentives. Gayle et al. (2015), however, suggests that career concerns are most effective at the middle ranks.

China offers a unique experimental setting in which to examine incentive issues related to career concerns. Due to its political ideology and rapidly expanding economy, the incentive mechanisms used in China and other parts of Asia often differ from in western economies. For example, Firth, Fung, and Rui (2006a) find that Chinese SOEs with a government agency as the largest shareholder do not seem to use performance-related pay for their executives. That is, there seems to be no link between the CEOs' pay and firm performance.[4] On the other hand, CEO pay in firms controlled by private block holders appears to increase in stockholders' wealth and/or firm profits, although the pay-performance sensitivity is still quite low (Conyon and He 2011).

With this relative weakness of explicit incentives, it is likely that implicit incentives such as career concerns play a large role in incentivizing Chinese CEOs. Although use of explicit incentives is weak, there is variation in pay-performance sensitivity, which leads to variation in expected use of implicit incentives. Finally, because we can track the career path of the executives, we can see performance outcomes related to the use of implicit incentives. Together, these factors make the Chinese market an interesting setting in which to study the use and effectiveness of implicit incentives.

2.2. Institutional Setting

As China has transitioned from a centrally planned economy toward a market economy, Chinese SOEs have become increasingly market-oriented. Since the establishment of two stock

[4] Relatedly, Kato and Long (2006) find a weak link between turnover and performance for listed firms controlled by the state, although they do not explore whether the turnover was due to a promotion or demotion.

exchanges (Shanghai and Shenzhen) in early 1990s, the Chinese government has corporatized and partially privatized many SOEs through initial public offerings.

In addition to increased privatization, governance of SOEs has evolved over time. Prior to 2003, various governmental agencies acted as representatives of the state to supervise SOEs. On May 27 2003, The State Council issued "Provisional Regulations on the Supervision and Administration of State-owned Assets of Enterprises" and established the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). SASAC is responsible for regulation and supervision of Central SOEs. Subsequently, each level of local governments also sets up state-owned assets supervision and administration authorities. SASAC at the national level guides and supervises work of the local SASACs. The purpose of SASAC system is to promote efficient management of SOEs like any other private companies and shield them from the government's social and public management functions.

Although the Chinese government seeks to enhance SOE efficiency, SOEs are subject to government interference due to social and political concerns (Shleifer and Vishny, 1997). The government owner can compel the firms to enter government-favored industries, pay additional taxes, increase local employment regardless of need, or provide social services to alleviate fiscal and employment problems (Bai and Xu, 2005; Bai et al. 2006). SOEs also are subject to governmentally-driven objectives (Lin and Li 2008). For example, the mission set out for the Chinese SOEs under the 11th five-year plan (2006-2010) was to "grow bigger and stronger", and under the 12th five-year plan (2011-2015), to "upgrade economic structure and pursue excellence". These objectives are not necessarily in alignment with market incentives.

Chinese government can hold SOE shares directly through a state asset management agency (after 2003, normally SASAC). As Fan et al. (2013) illustrates, the government can also choose to indirectly control the SOE through a pyramid structure. In this structure, the intermediate layers are usually other SOEs or state asset management companies. A listed SOE is thus part of a large SOE group with multiple layers of companies. Unlike the listed SOE, the parent SOE group faces less public scrutiny and monitoring by market participants. In our sample, the CEOs are employed by listed SOEs. Paid CEOs are paid by the listed SOE for whom they work. Unpaid CEOs are paid by an SOE that is higher up in the pyramid.

Representing the government, SASACs at both national level and local levels appoint, evaluate, compensate, dismiss, and promote SOE executives. Their decisions often reflect political priorities of the controlling government. The majority of SOE executives come either from the bureaucratic system or from internal SOE promotions. Although SASACs put effort into global recruiting of SOE executives, this has proven difficult. Therefore, most SOE managers have bureaucratic titles, especially those in unlisted SOE groups.

Although the Chinese government implemented an "annual salary system" for SOE executives as early as 1992, the majority of executive salaries still depend on firm location, industry, firm size, and the executive's bureaucratic rank, job type and personal qualifications. SASACs try to promote incentive pay that links firm performance such as profit, profitability and Economic Value Added© to salaries. Increasing the use of performance-based pay has largely been unsuccessful, however. Due to social concerns, the government has imposed regulations capping executive compensation at some multiple of the average pay of employee.[5]

[5] From 2015, SOEs controlled by the central government face further requirements to limit the level of executive pay.

Moreover, SASACs are conservative with respect to providing high powered incentives such as equity compensation. Even in the rare cases when executives do get some equity incentives, it is still difficult for them to pocket the gains from increased stock value. These granted stocks are thus more window dressing than genuine compensation (Chen et al. 2013).

In addition to compensation, the Chinese government provides career incentives to SOE executives. Many SOE executives obtain government positions after serving for years in SOEs. A notable case is the promotion of Gang Xiao, the former chairman of Bank of China (a central SOE), who became the chairperson of China Securities Regulatory Commission in 2013 (the regulator of Chinese stock market). SOE executives can also be transferred to another SOE as a promotion. For instance, on May 27, 2016, Zou Lei, the chairman of Harbin Electric Corp, became the chairman of Dongfang Electric Corp; and Zefu Si, the general manager of Dongfang Electric Corp, became the chairman of Harbin Electric Corp. Appendix A provides an example of the structure of a typical local-level SOE.

2.3. Research on Compensation Incentives in Chinese SOEs

Some prior literature has examined optimal managerial incentives in the Chinese SOE setting, although the findings are inconsistent. Mengistae and Xu (2004) show that the pay of unlisted SOE executives is linked with firm performance. Groves et al. (1995) find that management turnover in unlisted SOEs is negatively related to firm performance. Firth et al. (2006b) find that listed SOEs exhibit turnover-performance sensitivity. Cao et al. (2011) find a strong relation between executive pay and accounting performance measures for SOEs. However, some other studies show conflicting results. Firth et al. (2006a) find no evidence of pay-for-performance sensitivity in firms controlled directly by government agencies, but a positive

sensitivity in firms controlled by the government through multiple layers. Ke et al. (2012) find no relation between executive turnover and firm performance in SOEs.

Related to our study, Cao et al. (2014) examine the substitution effect between implicit incentives (political motivation) and explicit incentives. Specifically, they find that monetary compensation-based incentives (based upon levels of compensation) are weaker when CEO incentives are heavily driven by political career concerns. However, the regression models in Cao et al. (2014) examine the relation between current year promotion and current year performance. Implicit incentives should be measured ex ante—it is the expectation of promotion that provides incentives. Further, because Cao et al. (2014) include monetary compensation in their analyses, they omit unpaid executives from their sample.

Several studies have measured implicit incentives by examining political connections. Li et al. (2008) find that politically connected CEOs in privately owned enterprises have a positive effect on firm performance and enhance profitability. Fan et al. (2007) focus their research specifically on China's newly partially privatized firms. Based on data from 1993 to 2001, they find that three-year post-IPO stock returns are lower for firms with politically connected CEOs than for firms with non-politically connected CEOs. In contrast, using data from 2001 to 2005, Hu and Leung (2009) find a significant increase in firm performance following the appointment of political executives in SOEs. Similar performance improvement does not appear to occur in firms that appoint managers without political background and experience. Overall, results in this literature do not find a consistent association between political connections and firm performance. It therefore remains an open question as to whether implicit incentives stemming from political connections positively or negatively affect CEO behavior.

Although often used in the literature, political connection is not necessarily a good proxy for career concerns as an incentive mechanism. While political connections may increase the number of available jobs, promotions are more likely to be based on performance while in the job. Further, promotions for SOE CEOs are likely to be business rather than political promotions (in our sample, they are twice as likely) and are therefore less likely to be driven by political connections. Our setting provides a much cleaner proxy for career concerns by using the probability of future promotion. Our models also control for the CEO's work history in the government, which has a more indirect relation with these incentives.

Because they receive no pay from their direct employers, unpaid CEOs in our study have typically been omitted from the extant literature. The clear difference between these CEOs and their paid peers provides an opportunity to investigate implicit incentives and their impact not only in the Chinese setting, but also insights into the more general phenomenon of the use of career concerns as an incentive.

2.4. Hypothesis development

Unlike paid CEOs, unpaid CEOs are less likely to have contracts that include performance-based pay. Although these executives may receive non-monetary perquisites, granting of these benefits does not appear to be performance-based. This means that the SOEs cannot rely on explicit contracts to provide incentives for the unpaid CEOs. We therefore argue that the primary performance incentive for these executives is the possibility of promotion (i.e., career concerns) (Holmstrom 1982). We hypothesize that SOEs with unpaid CEOs are more likely to use promotions as an implicit incentive related to career concerns as a means of motivating the CEOs to perform well. A higher likelihood of promotion increases the strength of

the incentive, so stronger incentives related to career concerns should manifest in a higher likelihood of future promotion for unpaid CEOs in comparison with paid CEOs. Our first hypothesis is therefore:

H_1: Ceteris paribus, relative to paid CEOs, unpaid CEOs have higher probability of future promotion.

Given the existence of an implicit incentive related to promotion for unpaid CEOs, a natural question that arises is the effectiveness of this incentive, especially in comparison with the CEOs' paid peers. It is possible that this type of contract results in stronger incentives for managers to perform. Of course, in an ideal world, assuming incentive mechanisms are applied in an optimal way and holding everything else equal, there should be no difference in performance outcomes under the different incentive schemes. However, off equilibrium results can always occur due to various reasons. For example, the unpaid CEOs may have better connections with the government and thus may enjoy an unfair advantage. On the other hand, the parent SOE may put the CEOs in place to extract resources from the company for the controlling shareholder, which would result in lower levels of financial performance and potentially, lower efficiency. It is thus an empirical question whether the promotion incentives related to career concerns result in the company achieving superior performance relative to more traditional compensation contracts, which place a higher weight on explicitly defined performance-based pay.

H_{2a}: Ceteris paribus, financial performance of companies with unpaid CEOs does not differ significantly from companies with paid executives.

H_{2b}: Ceteris paribus, operational efficiency in companies with unpaid CEOs does not differ from companies with paid executives.

While a private firm seeks to maximize its profit due to market incentives, an SOE often maximizes a weighted average of its own profit and the welfare of other parties in the economy, since its interests at least partially reflect the interests of the government. For example, whereas a private firm would not consider employment level to be of major importance, an SOE may consider employment as a high priority. In addition, relative to a private firm (whose goal is to maximize profit), an SOE (whose goal is to maximize total social welfare) may tend to overproduce and oversell (Bova, 2015). SOEs may also place more emphasis on firm growth, because a larger organization is more likely to fulfill the societal needs of higher employment and higher supply of goods.

Further, the parent companies for our sample firms are not necessarily publicly traded. These untraded parent firms are also SOEs, and are even more likely to have a broader objective than the publicly traded subsidiaries, which are subject to external monitoring. If the stronger implicit incentives given to unpaid CEOs provide effective incentives for achieving the parent SOE's goals, unpaid CEOs should be more likely to focus on overall growth. We should therefore observe higher growth in firms with unpaid CEOs relative to firms with paid CEOs.[6]

H_{2c}: Ceteris paribus, growth in companies with unpaid CEOs is significantly higher than in companies with paid executives.

It is possible that unpaid executives are appointed by the SOE parent to siphon subsidiary wealth to the parent. Prior research has shown that Chinese CEOs often engage in "tunneling," which is a transfer of subsidiary resources to the parent firm. For example, Jiang, Lee, and Yue (2010) find that during 1996–2006, significant amount of funds was siphoned from hundreds of

[6] Consistent with our earlier arguments, to the extent that the unpaid CEO focuses on growth, overall financial performance may be negatively affected.

Chinese firms to controlling shareholders in the form of "other receivables." Most of these intra-company loans did not accrue interest, and even when there was interest charged, neither interest nor principle was typically paid back. Jiang et al. (2010) find significant negative impacts on the affiliates' financial performance related to such tunneling activities. Additionally, Cheung et al. (2010) show that different levels of the government matter in the tunneling activities from their SOEs. Specifically, SOEs controlled by the central government seem to benefit, rather than being taken advantage of, by their controlling shareholders.

In our setting, the association between tunneling and whether the CEO is officially paid by the company is not straight forward. If the unpaid CEO is placed in the company to extract resources for the parent firm, then there should be more tunneling if the CEO is unpaid. Further, Wang and Xiao (2011) examine the association between tunneling and executive compensation and incentives and find that stronger pay-performance sensitivity reduces the incentive to tunnel. Since unpaid CEOs have lower pay-performance sensitivity, they may therefore engage in more tunneling. On the other hand, the unpaid CEOs may have stronger incentives to run the business successfully than their paid peers. If the career concerns are strong enough, the unpaid CEOs would be less likely to engage in tunneling, which hurts the firms' financial performance.

H_3: Ceteris paribus, tunneling behavior of companies with unpaid CEOs does not differ from tunneling behavior of companies with paid CEOs.

Thus far, we have argued that unpaid CEOs' behaviors are predominantly affected by promotion incentives, since other types of incentives such as explicit pay for performance and market incentives play a small role in their contracts. However, if the relative balance of incentives changes, we expect to see a change the strength of the promotion incentives.

The Split Share Structure Reform of 2005 significantly changed the structure of incentives within the Chinese financial market. Prior to the Reform, the Chinese A-share stock market had a "split share" structure, featuring two different types of shares: tradeable and non-tradable. The non-tradable shares (constituting about two thirds of the stocks in the A-share market) were stocks primarily owned by the Chinese government and affiliates. The split share structure was a legacy from the partial privatization of the Chinese economy, and caused problems such as market illiquidity, operating inefficiency and poor corporate governance (Sun and Tong, 2003; Wei et al., 2005).

The Reform allowed the formerly non-tradeable shared in the A-share market to gradually free float, with some SOE firms selected for pilot tests and other firms following shortly afterward. By the end of year 2007, almost all stocks in the Chinese A-share market were successfully converted to tradeable shares. The Reform appears to have brought benefits for many different aspects of the Chinese economy, indicating an increase in the strength of market incentives. For example, researchers have shown empirical evidence consistent with better risk sharing (Li et al., 2011), improvements to SOE performance (Liao et al. 2014), improved corporate governance (Cumming et al., 2011), and reduced cash holdings by SOE firms (Chen et al, 2012).

We argue that the Reform affects incentives for SOE firm executives overall and will differentially impact paid versus unpaid CEOs. After the reform, market incentives become more effective because SOE block holders can now exit (Hope et al. 2015) and the corporate control market becomes an active tool for the government (Ke et al. 2015). This reduces the need for implicit incentives such as the possibility of promotion. The Reform thus allows the market to more strongly discipline CEOs through mechanisms such as takeovers and enhanced monitoring

by other groups of shareholders. We conjecture that the shift toward market incentives and additional discipline imposed on CEOs by the market will reduce the intensity of promotion incentives provided. This makes the incentives for the paid versus unpaid CEOs more similar. Because we expect unpaid CEOs to initially have the strongest promotion incentives, we expect that they will face the largest incentive change as market incentives displace promotion incentives.

H_4: Relative to the pre-Reform period, the probability of future promotion for unpaid CEOs decreases after the Reform.

3. Data and sample selection

Our initial sample consists of all local SOEs listed in Shanghai and Shenzhen stock exchanges between the years 1999 and 2011. A firm is a local SOE if its largest shareholder is the local governments or an entity whose ultimate owner is the local governments.[7] We exclude firms in the financial industry and firms with missing information, resulting in a total of 8602 final firm-year observations.

We choose 1999 as the beginning of our sample period because that is when publicly-listed firms in China started to systematically report executive compensation. We obtain our sample firms' financial information, compensation information, and governance information from the China Stock Market and Accounting Research database (CSMAR). Following prior literature (Firth et al. 2006b; Kato and Long, 2006; and Ke et al. 2012), we refer the "chairperson of the board," the highest-ranked executive in the database, as the CEO of the sample firm. We manually collect other executive characteristics from their published biographies. We also

[7] We focus on local SOEs because there are greater promotion opportunities for CEOs of these firms.

manually collect information about each CEO's next job position after he/she leaves the listed firm by reading the firms' announcements and news reports.

We separate our sample into unpaid and paid CEOs. We define a CEO as unpaid as unpaid if he/she receives no compensation from the listed firm, and as paid CEO if compensation is greater than zero. Table 1 contrasts the sample sizes of paid CEOs and unpaid CEOs by year. Among the total of 8,602 firm-year observations, 3,379 report that the CEO receives zero compensation from the firm where he/she works. This number comprises around 40% of our total sample, which is a surprisingly high portion. Further, the percentage of unpaid CEOs is quite stable across the sample period, indicating the persistence of this unusual compensation practice.

4. Empirical Results

4.1. Univariate analyses

Table 2 provides some univariate statistics for the paid and unpaid CEO samples. We start by examining whether there are significant differences between the two groups on CEO personal characteristics. Unpaid CEOs are older and more likely to be male. On average, paid CEOs are 50.4 years old on average and unpaid CEOs are almost 51 years old. Both groups are predominately male, with 96.7% (96%) of unpaid (paid) CEOs being male. While these figures differ from a statistical perspective, the values are not economically different. However, there are much greater differences across the subsamples in other areas. Unpaid CEOs are more likely to have work experience in the Chinese government, including in the military (42.1% for unpaid

versus 34.6% for paid), implying a closer tie with the government than for paid CEOs.[8] Unpaid CEOs are also less likely to hold dual positions (chairperson of the board and general manager) in the firm (2.0% for unpaid versus 18.9% for paid), indicating that they are less engaged in the operational aspects of the firm. Unpaid CEOs have an average tenure of 4.467 years at their firm, which is similar to the average tenure of paid CEOs (4.558 years). 77.4% of unpaid CEOs hold job title in the parent company of the listed firm, which is significantly higher than the 45.8% for paid CEOs. In addition to job titles in the listed firm and its subsidiaries, unpaid CEOs on average have 1.8 other job titles, which is more than 1.3 in paid CEOs.[9]

Our second group of variables relates to the CEOs' future chance of promotion. Promotion consists of two types: political promotion, i.e., promotion to a position as government official; and business promotion, i.e., a higher-level title in the parent group or an executive position at a larger firm. Overall, 8.6% of the unpaid CEOs experience a promotion, compared with only 2.7% of paid CEOs. This difference between the groups in the probability of future promotion (either political promotion or business promotion) after they leave the publicly-listed firms is both statistically and economically significant. When we further divide the probability of promotion into business and political promotions, the unpaid group exhibits significantly higher level of promotions in both categories than the paid group by 1.2% (for political promotions) and 4.7% (for business promotions). This result provides preliminary evidence that these two groups of CEOs face different incentive schemes. Specifically, relative to their paid peers, the unpaid group is more likely to be incentivized by promotions rather than explicit pay.

[8] We note, however, that there are a significant number of cases where the same CEO appears in our sample as paid in one year and unpaid in another year. This means that the choice of contract is not CEO-specific. We also find that the type of contract can differ from year to year within the same firm.
[9] Note that the CSMAR dataset only systematically provides information of job titles in other firms starting in 2001.

We find further differences across samples at the firm level. Firms with unpaid CEOs are significantly larger in size, with a mean total assets of RMB 4.5 billion, which is almost 10% higher than for firms with paid CEOs. The largest shareholder for firms with unpaid CEOs has an average stock holding of 45.5%, which is 4.5% more than the average government stock holding in the paid group. CEO share ownership is quite small for both groups, although statistically higher for paid CEOs.[10] On average, the unpaid executives own 26,357 shares, significantly lower than 557,056 shares by the paid executives. The two groups of firms are similar with respect to the degree of leverage and the percentage of independent directors on board of directors.

In general, operating performance is similar across samples. ROA and ROE does not significantly differ across groups, but the average sales growth for the unpaid group is more than 4% higher than the sales growth of the firms with paid CEOs. Although both groups have a negative average stock return, the unpaid group's return is about 2% less negative than the paid group. The unpaid group has significantly higher asset turnover than the paid group (0.7 versus 0.654). Both groups have similar size in terms of change in total assets and change in the number of employees. Consistent with Luo et al. (2010), we measure administrative expenses (Admin Expense) as administrative expenses excluding any annual provisions of asset impairments and direct compensation for directors and top executives, deflated by total assets. Admin Expense does not significantly differ across groups.

Finally, we compare the tunneling behavior of the two groups. Following Cheung et al (2010), Jiang et al. (2010) and Jian and Wong (2010), we use two proxies for tunneling:

[10] Many tech company founders such as Google's Sergey Brin and Larry Page, Facebook's Mark Zuckerberg, Tesla's Elon Musk, choose to receive zero compensation due to their enormous personal wealth, most likely created through their company share ownership shares. Clearly, this is not the case for Chinese CEOs, since these CEOs own very few shares or their companies.

"*Transfer*" and "*OtherAR.*" *Transfer* is defined as total amount of fund transfers through related party transactions from the listed firm to its parent company and/or other firms in the same group over total assets. *OtherAR* is defined as the firm's balance of other receivables over total assets. We do not find any significant difference between the two groups in tunneling, as measured by the funds transferred from the listed firm to the parent company or other companies within the same group. However, we find a higher amount of average other receivables (which captures the outstanding balances owed by their parent firms or related companies in the same group) in the paid sample, which is consistent with a higher level of tunneling for the paid group.

In sum, the univariate statistics in Table 2 provide preliminary evidence that firms with unpaid CEOs have a higher probability of being promoted than their peers who are explicitly paid. These CEOs appear to have greater implicit incentives to perform. Unpaid CEOs are also more likely to have more work experience and closer ties with the Chinese government. However, the probability of unpaid CEO promotion to a position in business is almost three times higher than the probability of promotion to a government position. This supports our contention that political incentives are not driving the behaviors that we examine.

4.2. Unpaid CEOs and future promotion

We argue that unpaid CEOs in our sample are motivated and disciplined primarily through their career concerns, i.e., the chance of future promotion. Specifically, H1 explores the strength of this incentive and predicts that compared to their paid peers, unpaid CEOs have a higher probability of being promoted to a higher position. To test H1, we adopt the following baseline logistic regression model:

$$Promotion_{t+1} = \beta_0 + \beta_1 Nopay_t + \beta_2 Age_t + \beta_3 Gender + \beta_4 Dual_t + \beta_5 ROA_t + \beta_6 SalesGrowth_t + \beta_7 Size_t + \beta_8 Leverage_t + \beta_9 Largest_t + \beta_{10} CEOshare_t + \beta_{11} Government_t$$

$$+ \varepsilon_t \quad (1a)$$

The dependent variable is the future probability of promotion (*Promotion)*, which is measured by three different proxies: *Promotion, PoliticalP and BusinessP*. *Promotion* is a dummy variable that equals1 if the CEO leaves for a job in government, a higher position in the parent group, or an executive position of a larger firm in year t+1, and 0 otherwise. *PoliticalP* is a dummy variable that equals 1 if the CEO leaves for a job in government in year t+1, and 0 otherwise. *BusinessP* is a dummy variable that equals 1 if the CEO leaves for higher position in the parent group or executive position of a larger firm in year t+1, and 0 otherwise. The main independent variable, *Nopay*， represents the type of incentive the CEO faces, taking value 1 if the CEO is unpaid, and 0 otherwise.

We include a battery of control variables to separate the promotion incentive from promotion based upon CEO characteristics and firm performance. *Age* is the CEO's age. *Gender* is a dummy variable that equals 1 if the CEO is male, and 0 otherwise. *Dual* is a dummy variable, taking value of 1 if a chairman is also the general manager of the listed firm and 0 otherwise. *Government* is a dummy variable that equals 1 if the CEO had worked for the government or military before joining the listed firm and 0 otherwise.[11] *ROA* is the firm's net income deflated by average assets. *Sales growth* is firm sales in year t minus sales in year t-1, deflated by sales in year t-1. *Size* is natural logarithm of the firm's total assets. *Leverage* is the ratio of the firm's total liabilities over total assets. *Largest* is the percentage of the firm's stockholdings owned by the largest shareholder whose ultimate owner is the Chinese government. *CEOshare* is the percentage of shares owned by a CEO. We also include fixed effects for industry and year.

[11] This variable has been used in prior research to investigate implicit incentives related to the CEO's political connections (e.g., Li et al. 2008 and Hu and Leung 2009).

Table 3 provides the results of our regression model (1). We find that *Nopay* is positively and significantly related to all three measures of future promotion. Specifically, in the *Promotion* model (column 1), *Nopay* has a significant and positive coefficient of 0.521. Holding other variables at the mean value, marginal effect of *Nopay* indicates that being paid by the parent firm is associated with an increase of 4.5% in general promotion probability in the next year. The remaining columns separate promotions into political (*PoliticalP* in column 2) and business (*BusinessP* in column 3) promotions, we find being unpaid is associated with 0.6% (3.4%) probability of being promoted to a political (business) position. The probability of being promoted to a higher business position is likely higher than to a government position, because there are generally fewer political positions than business positions. *AGE* is significantly negatively associated with the probability of future promotion, likely because the Chinese government in principle does not promote any official that is older than 60 years of age.[12] This explicit age cap has been imposed as part of the effort to lower Chinese government officials' average age. As a result, older CEOs have a lower likelihood of promotion if they have exceeded or are closer to the mandated age cap. This effect is stronger in the *PoliticalP* model than in the *BusinessP* model since business promotions are less subject to the age cap.

In addition, we find holding dual positions in a firm, *Dual*, significantly reduces the chance of a CEO's future promotion for both business and political promotions. This is because the CEOs who only serve as chairpersons but not general managers are less involved in the operational details of the companies, and focus more on strategical issues that prepare them better for higher positions. The CEOs' work experience in the government also plays a

[12] The retirement age for government employees is 60 for male and 55 for female. Male (female) officials with higher rank than provincial governor can retire at 65 (60).

significant role in their future promotion, although only for political promotions; it has no significant effect on the chance of business promotion.

Our results also indicate that company size is related only to the probability of political promotion. This may be because many Chinese SOEs aim to expand in size and CEOs of bigger firms are more likely to be perceived as successful. We also find that CEOs from a more highly leveraged firm are more likely receive a business promotion.

We conduct several additional tests as robustness checks. The first test focuses on the effect of the mandatory retirement age cap for Chinese government officials. The logistic regression model we use is

$$\begin{aligned} Promotion_{t+1} = {} & \beta_0 + \beta_1 Nopay_t + \beta_2 Near_t + \beta_3 Nopay_t x Near_t + \beta_4 Gender + \beta_5 Dual_t \\ & + \beta_6 ROA_t + \beta_7 Sales\ Growth_t + \beta_8 Size_t + \beta_9 Leverage_t + \beta_{10} Largest_t \\ & + \beta_{11} CEOshare_t + \beta_{12} Government_t + \varepsilon_t \end{aligned} \quad (1b)$$

where *Near* is a dummy variable that equals to 1 if a CEO is older than 58 and 0 otherwise. *Nopay x Near* is the interaction term of *Nopay* and *Near*. The variable *Near* captures the CEO's career horizon before mandatory retirement. A CEO's career horizon plays a potentially important role in his/her incentive at work. A CEO that is close to retirement is more likely to play the "end game" resulting in a weakened incentive effect. This effect is especially pronounced in the Chinese setting due to the mandatory age cap for government officials. If the incentive effect of having an unpaid policy is effective, we expect that it will mitigate the retirement effect.

As expected, we find that while *Nopay* remains significantly positive, *Near* is significantly negatively related with all three models for future promotion. This result confirms that a CEO closer to mandatory retirement age is less likely to be promoted. Note that the

magnitude of the coefficient estimate and the level of statistical significance are both especially strong in the case of *PoliticalP*, which is consistent with political promotion being most severely subjected to the age cap. Further, the interaction term *Nopay x Near* is significantly and positively related to *PoliticalP*, indicating that even near the mandatory retirement age, unpaid CEOs are still more likely to be promoted to a political position.

Although we control for CEO characteristics such as age, tenure, and government or military experience, it is possible that the results presented in tables 3-4 are driven by selection of candidates, namely, that better candidates for promotion are given unpaid positions. A CEO may be pre-selected into a certain incentive mechanism due to his/her personal traits. For example, he/she may exhibit a particularly strong political ambition and may respond more to an implicit incentive mechanism rather than to explicit pay. To begin to address this issue, we examine a subsample of CEOs whose compensation contracts have been switched, either from paid to unpaid or from unpaid to paid. The switch of contracts offers a unique setting to control for any pre-selection effect. As before, we control for CEO characteristics and firm performance to isolate the promotion incentive. Controlling for these factors, we expect to see a decrease (increase) in the probability of promotion when the CEO switches from unpaid to paid (paid to unpaid) which would be consistent with a greater use of promotion incentives when the CEO is unpaid.

Using subsamples of CEOs who switched contracts, matched with CEOs who did not switch, our logistic regression model is

$$\begin{aligned} Promotion = {} & \beta_0 + \beta_1 Switch + \beta_2 Age + \beta_3 Gender + \beta_4 Dual + \beta_5 ROA \\ & + \beta_6 Sales\ Growth + \beta_7 Size + \beta_8 Leverage + \beta_9 Largest + \beta_{10} CEOshare \\ & + \beta_{11} Government + \varepsilon \end{aligned} \quad (1c)$$

where *Switch* is one of two variables: *Nopay to Pay* and *Pay to Nopay*. For CEOs switching from unpaid to paid, we match with CEOs who are unpaid during their entire tenure, and construct the dummy variable *Nopay to Pay*, which equals 1 if a CEO receives a positive salary and 0 otherwise. For CEOs switching from paid to unpaid, we match CEOs who switch from paid to unpaid with CEOs who are paid during their entire tenures, and construct the dummy variable *Pay to Nopay*, which equals 1 if a CEO receives no salary and 0 otherwise.[13] We expect *Nopay to Pay* to be negatively associated with a CEO's future chance of promotion, and *Pay to Nopay* to have positive association.

Table 5 reports results of the promotion analysis for CEOs switching from unpaid to paid versus their matched unpaid peers. We find that switching from unpaid to paid (*Nopay to Pay* = 1) has a negative effect on a CEO's future chance of business promotion. Specifically, switching from a no pay contract to a paid contract is associated with a 1.3% reduction in the probability of future business promotion. [14]

Table 6 reports regression results for CEOs switching from paid to unpaid versus their matched paid peers. *Pay to Nopay* has significant positive coefficients for all the measures of promotion. Column (1)-(3) indicate a 4.3% increase in the overall likelihood of promotion, mainly driven by a business promotion (an increase of 3.0%).

Another factor that may impact promotion decisions for our sample firms is turnover in the local government. Such turnover creates uncertainty regarding promotion decisions for existing SOE CEOs. New political leaders may reevaluate the competence and the loyalty of

[13] Most CEOs who switch do so only once. Consideration of multiple switches does not impact our inferences.
[14] It is possible that the change in contract results from a secondary selection mechanism. We examine the impact of a change in the strength of the promotion and market incentives in our test of hypothesis H4 to further isolate changes in incentives from other factors that may affect the probability of promotion.

existing subordinates, which potentially results in greater turnover in SOEs. On the other hand, if an unpaid executive has pre-arranged career path, turnovers within the political hierarchy provide good timing to fulfill the arrangements. We construct a dummy variable to measure government turnover, *Local Turnover*, which takes value 1 if there is a turnover of governor in the province where the ultimate controlling owner of a listed firm resides, and zero otherwise. Columns (1) - (3) of Table 7 suggest that government turnover significantly reduces the probability of promotion, primarily for political promotions. After controlling the uncertainty from government turnover, however, we continue to find evidence that unpaid CEOs have a higher promotion probability. To mitigate the concerns of selection effect, we further control the number of job titles in other firms including the parent company. Our results remain qualitatively the same.

In summary, the analyses on CEOs' incentive method and future promotion provide evidence in support of H1, that unpaid CEOs have strong incentives related to their career concerns. Our results indicate while they may not receive performance-based pay in the current period, unpaid CEOs enjoy a significantly higher probability of being promoted.

4.3. Unpaid CEOs and firm performance

In this section, we examine the potential impact of the CEO's incentive mechanism on the firm's financial performance. Assuming the two different types of incentive mechanism are applied appropriately in equilibrium, there should be no difference in the CEOs' performance outcome, ceteris paribus. However, our univariate analysis indicates that CEOs with promotion incentives perform marginally better than their paid peers. To more formally test H2, we adopt the following regression model:

$$Performance_t = \beta_0 + \beta_1 Nopay_t + \beta_2 Age_t + \beta_3 Dual_t + \beta_4 Size_t + \beta_5 Leverage_t + \beta_6 Largest_t + \beta_7 CEOShare_t + \beta_8 Government_t + \beta_9 Idirector_t + \varepsilon_t \quad (2)$$

where *Performance* is measured with different variables, depending on the hypothesis we are testing. For tests of H2a, *Performance* is either *ROA*, which is defined as the firm's net income deflated by its average assets, or *RET*, which is the firm's annual buy and hold stock return adjusted by market return. For our test of H2b, *Performance* is *Asset turnover*, which is total sales divided by average total assets. For our tests of H2c, *Performance* is *Sales growth*, which is the firm's sales in year t minus sales in year t-1, then deflated by sales in year t-1; *ΔAssets*, the percentage change in total assets; and *ΔEmployees*, log change in the number of employees. These variables capture different aspect of firm performance, especially given the specific nature of Chinese SOEs. *ROA* is the traditional accounting measure for a firm's profitability. *RET* captures a firm's success from the perspective of the financial market. *Asset turnover* measures how efficient the firm can turn its assets into sales. *Sales growth*, *ΔAssets* and *ΔEmployees* measure how fast a firm's business is expanding. Expansion is especially meaningful for SOEs, since government-owned enterprises are well-known to emphasize growth in business scale.

Results for regression model 2 are presented in Table 8. We focus our discussion on our variable of interest, *Nopay*. Among the six measures of the firm performance, *ROA* is to be positively associated with *Nopay* with a statistical significance at 5% level. Specifically, having an unpaid CEO is associated with 0.4% increase in a firm's return on assets, after controlling for other important variables. Moreover, *Nopay* is positively associated with *Asset turnover*, which is significant at the 10% level. Results reported in column (3) indicate that the ratio of sales to total assets increases 1.7% for an unpaid CEO. We also find that *Nopay* is positively associated with ΔAsset, which is significant at the 1% level, implying that an unpaid CEO is associated with 3.4% of growth in the company's asset growth. However, *Nopay* is not significant in

explaining stock return, sales growth, or the change in the company's number of employees. In sum, we find that firms with unpaid CEOs do not perform worse than firms with paid CEOs. We provide some evidence that firms with unpaid CEOs outperform the control group along some dimensions of performance. We thus find some support for hypotheses H2a-H2c.

In addition to our variables of interest, several of the control variables are significantly related to the different performance measures. Company size (*Size)* is generally positive and significant in explaining firm performance, indicating that larger firms tend to perform better. *Leverage* is generally negatively associated with firm performance, implying that a more indebted firm is less likely to perform well. The percentage of government ownership, *Largest*, is positively and significantly associated with all measures of firm performance except stock return. Thus the more shares the Chinese government has in a firm, the better the firm seems to perform along some dimensions. We also control for the characteristics of the CEOs in explaining firm performance outcomes. Although CEO share ownership in Chinese SOE firms is generally low, ownership (*CEOShare*) is positively associated with sales growth and asset growth, and marginally associated with return on assets. Whether a CEO holds dual titles in a firm (*Dual*) is only very marginally associated with some measure of performance (*RET* and *Asset turnover* at 10% significance, and *ΔEmployees* at 5% significance). The CEO's age has mixed results and does not seem to consistently impact firm performance. Whether a CEO has a government background is positively related to sales growth and change of employee numbers at the 5% level of significance.

4.4. Unpaid CEOs and Tunneling

Hypothesis H3 explores the association between CEO incentives and tunneling behavior. Because we provide arguments for consistent with tunneling by firms with unpaid CEOs being either greater than or less than firms with paid CEOs, we do not have any specific sign predictions for our analysis. We estimate the following regression model:

$$Tunneling_t = \beta_0 + \beta_1 Nopay_t + \beta_2 Age_t + \beta_3 Dual_t + \beta_4 Size_t + \beta_5 Leverage_t + \beta_6 Largest_t + \beta_7 CEOShare_t + \beta_8 Government_t + \beta_9 Idirector_t + \varepsilon_t \quad (3)$$

Following Cheung et al (2010), Jiang et al. (2010) and Jian and Wong (2010), we use two proxies for tunneling: "*Transfer*" and "*OtherAR*". *Transfer* is defined as total amount of fund transfers through related party transactions from the listed firm to its parent company and/or other firms in the same group over total assets. *OtherAR* is defined as the firm's balance of other receivables over total assets.

Table 9 presents results of estimating regression model 3. Results indicate that *Nopay* is significantly negatively associated with *Transfer*, indicating that companies with unpaid CEOs engage in *less* tunneling in the form of net asset transfer to parent firms. Specifically, having an unpaid CEO is associated with an average 0.6% less net transfer to the related parties, who include the parent company and other firms in the same group. *Nopay* is not significantly related to *OtherAR*.

While our univariate results indicate a non-zero level of tunneling for our firms, we find that firms with larger levels of government ownership are less likely to extort funds for the benefit of the SOE parent. Combined with less tunneling related to unpaid executives, our results indicate the importance to consider incentives mechanism implemented by largest shareholders of business groups.

4.6 The Split Share Structure Reform

While the results we report are consistent with unpaid CEOs having stronger implicit (career-related incentives) and that companies with unpaid CEOs exhibit different performance along some dimensions, there are some unresolved issues in interpreting our results. For example, the result that CEOs that switch between paid and unpaid regimes face different probabilities of (and hence incentives based upon) promotion may be indicative of a secondary sorting by the companies. CEOs who are originally viewed as less (more) talented and given a "paid" ("unpaid") position, but then are elevated (reduced) to an "unpaid" ("paid") position once their true type becomes known, would produce results similar to those reported in our tables 5 and 6. Our controls for CEO characteristics and firm performance in those models may not fully control for this possibility. To provide some additional insights, we examine a setting where the relative strength of the implicit (career concern) incentives and explicit (market) incentives changes due to exogenous changes in the regulatory environment.

The Split Share Structure Reform is the most significant reform of the Chinese financial market in recent years. As we conjecture in hypothesis 4, due to the strengthening of market incentives for SOEs, the Reform may impact the SOE firms' compensation and incentive practice for their executives.[15] Specifically, since the Reform strengthens external monitoring, we expect the implicit promotion incentives for the unpaid CEOs to be relatively weakened.

The Reform provides a nice setting to test implicit incentives because it experienced a staggered adoption process. Different firms complete the reform at different points in time. From the start of the Reform on April 29, 2005, 403 firms finished by the end of 2005, additional 866

[15] It is interesting that before the reform, 37.78% of CEOs received no pay. After the reform, the ratio increases to 41.36%. This increase is significant at the 1% level.

firms finished by the end of 2006, 103 firms in 2007, 29 firms in 2008, 17 firms between 2009 and 2011. By the end of 2012, there were 10 firms still subject to the completion of the Reform.

To test H4, we adopt the following regression model:

$$\begin{aligned} Promotion = {} & \beta_0 + \beta_1 Nopay + \beta_2 Reform + \beta_3 Nopay\ x\ Reform + \beta_4 Age + \beta_5 Gender \\ & + \beta_6 Dual + \beta_7 ROA + \beta_8 Sales\ Growth + \beta_9 Size + \beta_{10} Leverage \\ & + \beta_{11} Largest + \beta_{12} CEOshare + \beta_{13} Government + \varepsilon \end{aligned} \quad (4)$$

where *Reform* is a dummy variable that equals to 1 if the firm's stocks owned by the Chinese government are tradable in the stock market, and 0 otherwise. *Nopay x Reform* is an interaction term between *Nopay* and *Reform*. If the Reform weakens the use of promotion incentives for unpaid CEOs, we would expect to see a negative coefficient of the interaction term.

Table 10 provides the result of regression model 4. Similar to in the previous analyses, the variable *Nopay* is positive and significant in all three columns for predicting the CEOs' future chance of promotion. Consistent with H4, the coefficient of *Nopay x Reform* is significantly negative in all regressions, indicating a reduced probability of all types of promotion for unpaid CEOs. Note that *Reform* is insignificant in all three regressions, implying no significant change in the probability of CEO promotion after the Reform for paid CEOs.[16] Interestingly, F tests of *Reform* + *Nopay x Reform* suggest that after the reform, there is no difference in the probability of promotion between being paid and unpaid, although unpaid CEOs still enjoy a higher probability of promotions within business. This result indicates that the incentives provided to paid and unpaid CEOs became more similar after the Reform.

[16] Disclosure requirements for compensation information underwent several changes during our sample period. From 1999 to 2001, Chinese listed firms were only required to disclose a range of compensation for their CEOs. From 2001 to 2005, disclosure requirements were expanded to include the sum of total compensation for the three highest-paid executives. Finally, starting from 2006, all listed firms are required to report each individual executive's total compensation, which is the sum of salary, bonus, stipends, and other benefits. Since unpaid CEOs' compensation was not disclosed until 2012, which is after our sample period, changes in disclosure do not affect our tests of H4.

As an additional test, we investigate the impact of the Reform on firm performance. As market incentives become more important for all firms, there may be a greater focus on financial performance. We thus expect an improvement in financial performance for all companies. This improvement may be different across firms with paid versus unpaid CEOs, however. As market incentives become stronger after the Reform and consistent with our results in table 10, differences in incentives for paid versus unpaid CEOs likely become less extreme. If so, there should be less difference in financial performance between the two sets of firms. In addition, market objectives, such as improved ROA should become more important than SOE-specific objectives, such as sales growth, or tunneling. The model we estimate is:

$$\begin{aligned} \textit{Performance/ Tunneling} = {} & \beta_0 + \beta_1 Nopay + \beta_2 Reform + \beta_3 Nopay \times Reform + \beta_4 Age + \beta_5 Dual \\ & + \beta_6 Size + \beta_7 Leverage + \beta_8 Largest + \beta_9 CEOShare + \beta_{10} Government \\ & + \beta_{11} Idirector_t + \varepsilon \end{aligned} \quad (5)$$

Table 11 summarizes the results for estimation of model 5. In these tests, we use a subsample of firms whose executives are constant before and after the Reform to isolate changes in firm behavior associated with the regulatory reform. Similar to the test result of H2, *Nopay* is significant and positive on *ROA*, indicating that prior to the Reform, firms with unpaid CEOs outperformed firms with paid CEOs. The coefficient of *Reform* (for paid CEOs) is significantly positive and the sum of coefficients of *Reform* and *Reform x Nopay* (for unpaid CEOs) is insignificant. This indicates that following the reform, firms with unpaid CEOs "caught up" with their paid peers with respect to ROA performance. Interestingly, the reform also impacted market returns (*RET*); both the coefficients of *Reform* (for paid CEOs) and the sum of coefficients of *Reform* and *Reform x Nopay* (for unpaid CEOs) are significantly positive. This suggests an increase in the effect of market incentives. In the *Sales Growth* model, the coefficient of *Nopay x Reform* is significantly negative, indicating that firms with unpaid CEOs

reduced their sales growth. This is consistent with movement away from SOE-specific incentives toward market incentives. Indeed, none of the sums of the coefficients of *Nopay* and *Nopay x Reform* for Column(1)-(6) in Table 11 is statistically different from zero, indicating there is no difference in financial performance between firms with paid versus unpaid CEOs following the Reform. This provides support for our hypothesis of firm performance becoming more similar across firms following the Reform.

The final two columns of Table 11 present results of regression model (5) using two different measures of tunneling. Model 7 of the table provides evidence that our earlier results (Table 9) of less tunneling via inter-company transfers for firms with unpaid CEOs were driven by the post-Reform period. This is consistent with a reduction in tunneling behavior following the Reform. In model (8), results indicate that the insignificant results in Table 9 for tunneling via inter-company loans (Accounts Receivable) were due to differences across periods, with significantly higher tunneling in firms with unpaid CEOs prior to the Reform (*Reform* = 0.007, $p < 0.05$), and a significant reduction following the reform (*Nopay x Reform* = -0.008, $p < 0.01$). Results also indicate that companies with paid CEOs reduced their tunneling activities via inter-company loans following the Reform.

In summary, we find that the Split Share Structure Reform has provided stronger link between executive incentives and stock market performance for all firms. In the course of doing so, it weakened the strength of future promotion as an incentive mechanism for SOE CEOs. Consistent with this argument, we find that the probabilities of future promotion for unpaid CEOs generally decreased following the Reform. This implies that the Chinese government is now relying on more market-based incentives to motivate the SOEs' executives. Further, we find

the superior financial performance related to unpaid CEOs has also diminished after the Reform. We also find an overall reduction in tunneling activities.

4.7. Executive perquisites, firm performance and tunneling

In addition to monetary compensation, executives enjoy perquisites. Chinese listed firms may compensate their unpaid CEOs through non-cash perquisites. Since these perks have performance implications (Yermack 2006; Rajan and Wulf 2006), incentives from perks potentially explain our results on performance. To mitigate this alternative explanation, we construct a proxy for perks, *Mperk*.

Unlike US, China does not require listed firms to disclose executive perks. Therefore, we rely on administrative expense (*Admin Expense*) to estimate the amount of perks. Following Luo et al. (2011), we regard the abnormal level of administrative expenses as *Mperk*. The normal level of administrative expenses (*Nexp*) is estimated by using the following equation for each year and for each industry:

$$\frac{\text{Admin expense}_t}{Assets_{t-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{t-1}} + \beta_2 \frac{\Delta Sales_t}{Assets_{t-1}} + \beta_3 \frac{PPE_t}{Assets_{t-1}} + \beta_4 \frac{Inv_t}{Assets_{t-1}} + \beta_5 LnEmployee_t \quad (5)$$

Admin Expense$_t$ is total administrative expenses excluding annual provisions of asset impairments and direct compensation for directors and top executives; Assets$_{t-1}$ is lagged total assets; $\triangle Sales_t$ is change in sales; PPE_t is net value of Property, Plant and Equipment; Inv_t is yearend value of inventories; $LnEmployee_t$ is natural log of number of employees. *Mperk* is calculated as the difference between *Admin Expense* and *Nexp*.

Table 12 presents the results on the impact of executive perks. After controlling executive perks, we find the results remain qualitatively unchanged and that firms with unpaid CEOs have higher ROA, higher asset turnover, and lower degree of tunneling.

5. Conclusion

We examine an unusual phenomenon of Chinese executives receiving zero pay from the firms for whom they work. We find that these CEOs are strongly motivated and disciplined by career concerns, i.e., the opportunity of future promotion. Indeed, compared to their paid peers, unpaid CEOs have three times higher probability of being promoted to a higher position. When we examine the outcomes of the incentive mechanism of the unpaid CEOs, we find that firms with unpaid CEOs outperform their peer firms, and engage in less tunneling activities.

To provide additional evidence regarding promotion-related incentives, we conduct an event study using the Split Share Structure Reform in 2006. This reform resulted in a strengthening of market incentives for all SOEs in China. We posit and find evidence consistent with this increased in emphasis on market incentives resulting in movement away from use of promotion incentives. Our evidence indicates a reduction in the use of promotion incentives, with the probability of promotion for unpaid CEOs declining following the Reform. Further, consistent with movement away from SOE-related incentives and toward market incentives, we find that after the Reform, performance characteristics including financial performance (ROA, stock market returns, and sales growth) and tunneling in the form of inter-company loans with the parent become more similar for firms that have paid versus unpaid CEOs.

Our results shed light into the unique executive compensation mechanisms in Chinese SOEs, and provide an explanation of how unpaid CEOs can have as strong an incentive based

upon career concerns as based upon conventional explicit incentives. We show that the concerns raised by the Chinese popular press are ungrounded, and that the firms with unpaid CEOs perform at least as well as the control group with paid CEOs.

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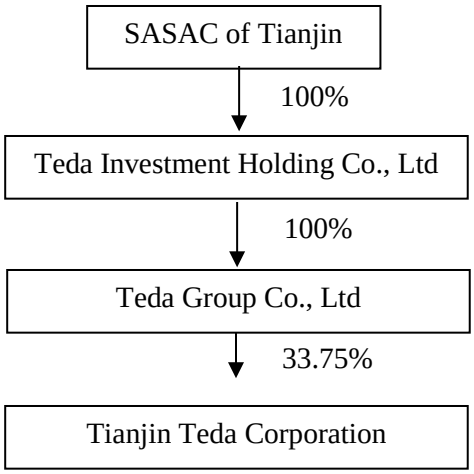
Appendix A: Illustration of the structure of a local SOE

Tianjin Teda Corp is a listed SOE, stock code 000652. It is controlled by the government of Tianjin city through two layers. The following figure illustrates the ownership structure:



Huiwen Liu was the chairman of Tianjin Teda Corp from 1997 to 2011, receiving no compensation from the listed firm. He was also the chairman of Teda Investment Holding Co. from 2006 to 2011. In May 2011, at the age of 57, he resigned all his titles to become the chairman of Bohai Property Insurance Co., an unlisted SOE with a revenue of RMB1.5 billion, which is much smaller than the RMB51 billion revenue of Tianjin Teda Corp. His successor, Jun Zhang, the general manager of Teda Group Co. since 2008, became the chairman of Tianjin Teda Corp. Jun Zhang did not receive compensation from the listed firm either. After two-year service at the listed firm, at the age of 46, he was promoted to vice president of Teda Investment Holding in Feb. 2013.

Table 1 Sample Distribution

	Paid CEOs	Unpaid CEOs	Total
1999	365	233	598
2000	399	276	675
2001	433	277	710
2002	443	266	709
2003	438	253	691
2004	445	241	686
2005	412	251	663
2006	398	236	634
2007	393	256	649
2008	367	276	643
2009	371	268	639
2010	375	280	655
2011	384	266	650
Total	5223	3379	8602

Table 2 Comparison between firms with paid chairman and firms with unpaid chairman

	Unpaid CEO (1)			Paid CEO (2)			
	N	Mean	median	N	Mean	median	(2) - (1)
Age	3379	50.955	51	5223	50.41	51	-0.545***
Gender	3379	0.967	1	5223	0.96	1	-0.007*
Government	3379	0.421	0	5223	0.346	0	-0.075***
Dual	3379	0.02	0	5223	0.189	0	0.170***
Tenure	3379	4.467	3	5223	4.558	4	0.091
Shareholdertitle	2869	0.774	1	4455	0.458	0	-0.316***
Titles	2869	1.765	1	4455	1.294	1	-0.471***
Promotion	3379	0.086	0	5223	0.027	0	-0.059***
BusinessP	3379	0.063	0	5223	0.016	0	-0.048***
PoliticalP	3379	0.023	0	5223	0.011	0	-0.011***
Assets (billions)	3379	4.576	2.091	5223	3.979	1.717	-0.596***
Leverage	3379	0.506	0.496	5222	0.505	0.501	-0.001
CEOshare	3379	0.000	0	5223	0.001	0	0.001***
Largest	3379	0.453	0.455	5223	0.41	0.396	-0.043***
Idirector	3379	0.282	0.333	5223	0.28	0.333	-0.002
ROA	3379	0.031	0.033	5223	0.028	0.031	-0.002
Sales growth	3379	0.227	0.134	5223	0.184	0.138	-0.043***
RET	3379	-0.016	-0.052	5223	-0.036	-0.058	-0.020**
ROE	3378	0.049	0.068	5222	0.042	0.065	-0.006
Asset turnover	3379	0.7	0.575	5222	0.654	0.537	-0.047***
Δassets	3379	0.167	0.09	5222	0.159	0.092	-0.009
Δemployees	3026	-0.026	0	4606	-0.006	0.008	0.02
Admin Expense	3379	0.046	0.038	5222	0.047	0.039	0.001
Transfer	3379	0.006	0	5222	0.008	0	0.002
OtherRA	3379	0.05	0.018	5222	0.054	0.023	0.004**

Age: a CEO's age; Gender: dummy variable, 1 if a CEO is male; Government, a dummy variable, 1 if a CEO worked for government or military; Dual: dummy variable, 1 if the chairman is also general manager; Tenure, the number of years as CEO; Shareholdertitle, a dummy variable, 1 if a CEO has a job title in parent company; Titles, the number of titles a CEO has other than those in a listed firm; Promotion, a dummy variable, 1 if a CEO leaves for a job in government, higher position in the parent group, executive position of a larger firm in year t+1; PoliticalP, a dummy variable, 1 if a CEO leaves for a job in government in year t+1; BusinessP, a dummy variable, 1 if a CEO leaves for higher position in the parent group or executive position of a larger firm in year t+1; Assets, total assets in billions; Leverage, total liabilities deflated by total assets; CEOshare: the percentage of stocks owned by a CEO; Largest: the percentage of stocks owned by the largest shareholder; Idirector, the percentage of independent directors on board of directors; ROA: net income deflated by average assets; Sales growth: sales in year t minus sales in year t-1, deflated by sales in year t-1; RET: annual buy and hold stock return adjusted by market return; Asset turnover: total sales divided by average total assets; Δassets: percentage change in total assets; Δemployees: log change in number of employees; Admin Expense: administrative expenses excluding annual provisions for asset impairments and total executive and director compensation, deflated by total assets; Transfer: funds transferred from the listed firm to its parent company and/or other firms in the same group; OtherRA: other receivables divided by total assets.

Table 3 Regression Results on Future Promotion

This table presents results of probit regression on future promotion. Promotion is a dummy variable, 1 if chairman leaves for a job in government in year t+1, higher position in the parent group, or executive position of a larger firm and otherwise zero. PoliticalP is a dummy variable, 1 if chairman leaves for a job in government in year t+1 and otherwise zero. BusinessP is a dummy variable, 1 if chairman leaves for higher position in the parent group or executive position of a larger firm in year t+1 and otherwise zero. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)
Nopay	0.521***	0.224***	0.594***
	(10.06)	(2.86)	(9.92)
Age	-0.699***	-1.096***	-0.402**
	(-4.27)	(-4.56)	(-2.20)
Gender	-0.024	0.022	-0.044
	(-0.18)	(0.11)	(-0.31)
Dual	-0.457***	-0.291**	-0.554***
	(-4.19)	(-2.13)	(-3.81)
ROA	0.096	-0.684	0.352
	(0.20)	(-1.00)	(0.66)
Sales growth	-0.062	0.053	-0.122**
	(-1.12)	(0.68)	(-1.98)
Size	0.027	0.152***	-0.026
	(0.99)	(3.73)	(-0.85)
Leverage	0.205	-0.350*	0.379**
	(1.49)	(-1.78)	(2.52)
Largest	0.149	0.259	0.027
	(0.94)	(1.06)	(0.15)
CEOshare	-1.721	-5.553	-1.123
	(-0.32)	(-0.44)	(-0.19)
Government	0.157***	0.548***	-0.090
	(2.93)	(6.68)	(-1.46)
Constant	0.574	-0.901	0.163
	(0.72)	(-0.83)	(0.17)
Observations	8,601	8,601	8,601
Pseudo R^2	0.085	0.099	0.097

Table 4 Impact of Retirement on promotion decision

Promotion, a dummy variable, 1 if chairman leaves for a job in government in year t+1, higher position in the parent group, or executive position of a larger firm and otherwise zero. PoliticalP is a dummy variable, 1 if chairman leaves for a job in government in year t+1 and otherwise zero. BusinessP is a dummy variable, 1 if chairman leaves for higher position in the parent group or executive position of a larger firm in year t+1 and otherwise zero. Near, a dummy variable, equals to 1 if a CEO is older than 58 and zero otherwise. We control fixed effects of year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)
Nopay	0.499***	0.193**	0.582***
	(9.33)	(2.41)	(9.37)
Near	-0.516***	-3.558***	-0.315*
	(-2.93)	(-31.39)	(-1.74)
No pay x Near	0.256	3.279***	0.084
	(1.25)	(15.41)	(0.39)
Gender	0.153***	0.548***	-0.093
	(2.85)	(6.65)	(-1.50)
Dual	-0.468***	-0.300**	-0.566***
	(-4.30)	(-2.19)	(-3.91)
ROA	0.084	-0.763	0.344
	(0.17)	(-1.11)	(0.64)
Sales growth	0.203	-0.362*	0.375**
	(1.47)	(-1.82)	(2.49)
Size	-0.007	0.046	-0.032
	(-0.05)	(0.23)	(-0.22)
Leverage	0.024	0.154***	-0.028
	(0.89)	(3.69)	(-0.93)
Largest	-0.063	0.054	-0.122**
	(-1.13)	(0.69)	(-1.97)
CEOshare	0.143	0.273	0.014
	(0.89)	(1.11)	(0.08)
Government	-0.358*	-0.714**	-0.131
	(-1.84)	(-2.53)	(-0.60)
Constant	-1.651	-4.734	-1.110
	(-0.31)	(-0.42)	(-0.18)
Test: Near + No pay x Near = 0			
χ^2	4.55**	1.97	2.99*
Observations	8,601	8,601	8,601
Pseudo R2	0.088	0.108	0.099

Table 5 Switching from No Pay to being Paid and Future Promotion

This table uses a subsample of CEOs who change from no pay to pay during their tenures and CEOs who receive no pay during their tenures. No pay to pay, a dummy variable if a CEO receives any salary and zero otherwise. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)
No pay to Pay	-0.153	0.139	-0.286**
	(-1.50)	(1.00)	(-2.33)
Age	-0.723***	-1.459***	-0.325
	(-3.12)	(-4.12)	(-1.28)
Gender	-0.190	-0.157	-0.169
	(-1.06)	(-0.59)	(-0.83)
Dual	-0.473**	-0.403	-0.478*
	(-2.17)	(-1.08)	(-1.95)
ROA	0.519	0.130	0.524
	(0.89)	(0.14)	(0.82)
Sales growth	-0.075	0.043	-0.117*
	(-1.18)	(0.45)	(-1.75)
Size	-0.006	0.138**	-0.060
	(-0.18)	(2.54)	(-1.49)
Leverage	0.281*	-0.339	0.429**
	(1.66)	(-1.38)	(2.33)
Largest	0.093	0.064	0.054
	(0.43)	(0.19)	(0.22)
CEOshare	-2.392	-27.787	5.159
	(-0.10)	(-0.68)	(0.21)
Government	0.096	0.632***	-0.171**
	(1.41)	(5.54)	(-2.25)
Constant	1.714	-2.602*	1.231
	(1.51)	(-1.72)	(0.97)
Observations	3,524	3,524	3,524
Pseudo R^2	0.054	0.108	0.065

Table 6 Change from being Paid to No Pay and Future Promotion

This table uses a subsample of CEOs who change from pay to no pay during their tenures and CEOs who receive salaries during their tenures. Pay to no pay, a dummy variable if a CEO receives no salary and zero otherwise. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)
Pay to No Pay	0.563***	0.300*	0.634***
	(5.13)	(1.82)	(5.21)
Age	-0.717***	-0.942***	-0.501*
	(-3.03)	(-2.80)	(-1.87)
Gender	0.152	0.240	0.056
	(0.72)	(0.64)	(0.24)
Dual	-0.428***	-0.253*	-0.566***
	(-3.44)	(-1.70)	(-3.11)
ROA	-0.602	-1.975*	0.253
	(-0.73)	(-1.92)	(0.26)
Sales growth	-0.061	0.052	-0.169
	(-0.54)	(0.42)	(-1.14)
Size	0.089**	0.204***	0.033
	(2.23)	(3.53)	(0.73)
Leverage	0.006	-0.535*	0.292
	(0.02)	(-1.74)	(1.05)
Largest	0.356	0.558	0.162
	(1.46)	(1.51)	(0.60)
CEOshare	-0.527	-2.349	-0.880
	(-0.10)	(-0.26)	(-0.13)
Government	0.206**	0.458***	-0.001
	(2.29)	(3.63)	(-0.01)
Constant	-0.741	-2.611*	-0.791
	(-0.64)	(-1.85)	(-0.56)
Observations	5,077	5,077	5,077
Pseudo R^2	0.085	0.129	0.100

Table 7 Robustness Tests of promotion decision

Promotion, PoliticalP and BusinessP are dummy variables for promotion. Idirector is the percentage of independent director on the board. Admin expense, a proxy for perks, is administrative expenses minus total executive compensation and annual provisions for asset impairments, deflated by total assets. Local Turnover is a dummy variable, 1 if there is a governor turnover in the province that ultimately controls a firm. Titles is the number of job titles a CEO has in other firms. We control fixed effects of year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Nopay	0.520***	0.225***	0.594***	0.508***	0.220**	0.581***
	(10.04)	(2.86)	(9.91)	(8.76)	(2.55)	(8.64)
Age	-0.706***	-1.118***	-0.405**	-0.663***	-1.039***	-0.413*
	(-4.31)	(-4.65)	(-2.22)	(-3.50)	(-3.68)	(-1.95)
Gender	-0.020	0.026	-0.042	-0.010	-0.095	0.030
	(-0.15)	(0.13)	(-0.29)	(-0.07)	(-0.45)	(0.18)
Dual	-0.456***	-0.292**	-0.553***	-0.505***	-0.463**	-0.495***
	(-4.18)	(-2.13)	(-3.81)	(-3.60)	(-2.29)	(-2.96)
ROA	0.111	-0.681	0.360	-0.085	-0.964	0.200
	(0.23)	(-0.99)	(0.68)	(-0.16)	(-1.25)	(0.33)
Sales growth	-0.061	0.055	-0.122**	-0.026	0.100	-0.093
	(-1.10)	(0.71)	(-1.98)	(-0.42)	(1.15)	(-1.30)
Size	0.026	0.151***	-0.026	0.032	0.163***	-0.021
	(0.98)	(3.67)	(-0.85)	(1.12)	(3.72)	(-0.64)
Leverage	0.209	-0.349*	0.381**	0.102	-0.383*	0.262
	(1.53)	(-1.76)	(2.54)	(0.66)	(-1.68)	(1.58)
Largest	0.149	0.265	0.026	0.124	0.028	0.122
	(0.94)	(1.08)	(0.14)	(0.68)	(0.10)	(0.61)
CEOshare	-1.893	-5.878	-1.217	-1.658	-3.200	-1.503
	(-0.34)	(-0.46)	(-0.20)	(-0.31)	(-0.32)	(-0.25)
Government	0.156***	0.552***	-0.092	0.150**	0.547***	-0.086
	(2.90)	(6.72)	(-1.49)	(2.50)	(5.88)	(-1.25)
Local Turnover	-0.134**	-0.249**	-0.066	-0.152**	-0.285***	-0.077
	(-2.12)	(-2.48)	(-0.95)	(-2.22)	(-2.60)	(-1.03)
Titles				0.007	0.002	0.012
				(0.51)	(0.09)	(0.82)
Constant	0.635	-0.733	0.186	-0.081	-1.391	-0.403
	(0.80)	(-0.68)	(0.20)	(-0.09)	(-1.11)	(-0.38)
Observations	8,601	8,601	8,601	7,323	7,323	7,323
Pseudo R2	0.086	0.103	0.097	0.085	0.107	0.094

Table 8 Regression Results on Performance

We control fixed effects of firm, year and industry. T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	ROA	RET	Asset turnover	Sales growth	ΔAssets	ΔEmployees
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Nopay	0.004**	0.025	0.017*	0.031	0.034***	-0.015
	(2.01)	(1.59)	(1.93)	(1.63)	(3.12)	(-0.52)
Age	0.019***	-0.040	-0.027	-0.180***	-0.047	-0.129
	(2.78)	(-0.78)	(-0.89)	(-2.82)	(-1.22)	(-1.25)
Dual	0.002	0.036*	0.020*	-0.024	0.022	0.086**
	(0.74)	(1.77)	(1.67)	(-1.08)	(1.52)	(2.35)
Size	0.012***	-0.018	-0.006	0.102***	0.163***	0.165***
	(5.47)	(-1.32)	(-0.66)	(5.64)	(14.61)	(6.55)
Leverage	-0.176***	-0.072	-0.108***	0.036	-0.144***	-0.055
	(-21.62)	(-1.58)	(-4.11)	(0.58)	(-4.06)	(-0.67)
Largest	0.059***	0.028	0.109**	0.300**	0.220***	0.273**
	(6.02)	(0.34)	(2.33)	(2.50)	(3.41)	(2.07)
CEO share	0.839*	-1.562	0.524	8.431**	14.765***	2.738
	(1.70)	(-0.29)	(0.21)	(2.36)	(2.69)	(0.48)
Government	0.002	-0.010	-0.019	0.046**	0.015	0.064**
	(0.98)	(-0.55)	(-1.62)	(1.99)	(1.08)	(2.03)
Idirector	0.009	-0.056	-0.004	-0.106	0.013	-0.189
	(0.92)	(-0.75)	(-0.10)	(-1.17)	(0.19)	(-1.29)
Observations	8,601	8,601	8,601	8,601	8,600	7,631
Adjusted R^2	0.471	0.011	0.775	0.083	0.202	0.092
Number of firms	1028	1028	1028	1028	1028	1028

Table 9 Regression Results on Tunneling

Transfer, funds transferred from the listed firm to its parent company and/or other firms in the same group; OtherAR, the balance of other receivables over total assets. We control fixed effects of firm, year and industry. T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Transfer (1)	OtherAR (2)
Nopay	-0.006***	-0.002
	(-2.71)	(-1.04)
Age	0.011	0.003
	(1.28)	(0.38)
Dual	-0.003	0.002
	(-0.87)	(0.75)
Size	0.005**	-0.001
	(2.11)	(-0.37)
Leverage	-0.005	0.082***
	(-0.41)	(8.74)
Largest	-0.032**	-0.034***
	(-2.57)	(-3.20)
CEO share	0.081	-0.342
	(0.26)	(-1.12)
Government	-0.001	-0.001
	(-0.21)	(-0.55)
Idirector	-0.006	0.000
	(-0.54)	(0.01)
Observations	8,601	8,601
R^2	0.412	0.580
Number of firms	1028	1028

Table 10 Impact of split-share reform in 2005 on promotion decision

Promotion, a dummy variable, 1 if chairman leaves for a job in government in year t+1, higher position in the parent group, or executive position of a larger firm and otherwise zero. PoliticalP is a dummy variable, 1 if chairman leaves for a job in government in year t+1 and otherwise zero. BusinessP is a dummy variable, 1 if chairman leaves for higher position in the parent group or executive position of a larger firm in year t+1 and otherwise zero. Reform, a dummy variable, equals to 1 if the stocks owned by the government are tradable and zero otherwise. We control fixed effects of year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	PoliticalP	BusinessP
VARIABLES	(1)	(2)	(3)
Nopay	0.617***	0.325***	0.684***
	(9.53)	(3.36)	(9.12)
Reform	-0.100	-0.196	-0.015
	(-0.63)	(-0.82)	(-0.08)
No pay x Reform	-0.247**	-0.268*	-0.225*
	(-2.46)	(-1.79)	(-1.93)
Age	-0.701***	-1.083***	-0.406**
	(-4.28)	(-4.50)	(-2.22)
Gender	-0.021	0.028	-0.044
	(-0.16)	(0.13)	(-0.30)
Dual	-0.451***	-0.279**	-0.550***
	(-4.16)	(-2.05)	(-3.80)
ROA	0.039	-0.671	0.289
	(0.08)	(-0.99)	(0.55)
Sales growth	-0.066	0.046	-0.125**
	(-1.19)	(0.59)	(-2.04)
Size	0.034	0.159***	-0.021
	(1.24)	(3.89)	(-0.70)
Leverage	0.171	-0.372*	0.354**
	(1.26)	(-1.91)	(2.35)
Largest	0.165	0.283	0.039
	(1.03)	(1.15)	(0.22)
CEOshare	-2.286	-7.506	-1.546
	(-0.38)	(-0.53)	(-0.24)
Government	0.157***	0.548***	-0.091
	(2.92)	(6.70)	(-1.47)
Constant	0.406	-1.136	0.048
	(0.51)	(-1.04)	(0.05)
Test: No pay + No pay x Reform = 0			
χ^2	21.24***	0.22	24.33***
Observations	8,601	8,601	8,601
Pseudo R2	0.087	0.102	0.099

Table 11 Impact of Share Reform on Firm Performance

This table is based upon a subsample of CEOs who experience the stock-split reform. Reform, a dummy variable, equals 1 if the stocks owned by the government are tradable and zero otherwise. We control fixed effects of firm, year and industry. T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	ROA (1)	RET (2)	Asset turnover (3)	Sales growth (4)	ΔAssets (5)	ΔEmployees (6)	Transfer (7)	OtherAR (8)
Nopay	0.008***	0.020	0.020	0.106**	0.029	0.041	0.002	0.007**
	(2.79)	(0.55)	(1.10)	(2.40)	(1.16)	(0.54)	(0.63)	(2.02)
Reform	0.013***	0.207***	0.053**	0.120**	0.037	-0.087	0.004	-0.014***
	(2.68)	(3.81)	(2.15)	(2.20)	(1.12)	(-0.80)	(0.72)	(-3.15)
Nopay x Reform	-0.006*	-0.013	0.002	-0.087**	-0.001	0.020	-0.015***	-0.008***
	(-1.91)	(-0.33)	(0.10)	(-2.54)	(-0.06)	(0.44)	(-3.70)	(-2.59)
Age	0.075	1.446	-0.264	-0.251	0.912	-0.306	-0.076	-0.310***
	(0.64)	(1.42)	(-0.52)	(-0.22)	(1.23)	(-0.22)	(-0.60)	(-3.09)
Dual	0.002	0.014	-0.005	-0.012	0.028	0.163***	-0.009**	0.002
	(0.70)	(0.36)	(-0.31)	(-0.37)	(1.07)	(2.70)	(-2.38)	(0.67)
Size	0.011***	-0.064**	-0.052***	0.092**	0.202***	0.112***	0.006	0.000
	(3.45)	(-2.34)	(-3.31)	(2.53)	(8.75)	(3.00)	(1.24)	(0.03)
Leverage	-0.154***	0.121	-0.061	0.078	-0.044	0.114	-0.034*	0.061***
	(-12.67)	(1.17)	(-1.13)	(0.55)	(-0.52)	(0.89)	(-1.81)	(4.58)
Largest	0.054***	-0.123	0.407***	0.456**	0.204*	0.211	-0.009	-0.032**
	(3.80)	(-0.84)	(5.09)	(2.49)	(1.82)	(1.04)	(-0.46)	(-2.34)
CEO share	-1.066*	-10.166	-10.511***	9.282	17.173*	13.811*	0.727	-0.078
	(-1.89)	(-1.19)	(-2.63)	(1.52)	(1.76)	(1.69)	(1.07)	(-0.18)
Government	-0.031**	-0.086	0.144**	-0.013	-0.351	0.528	-0.011	0.000
	(-2.42)	(-0.50)	(2.52)	(-0.09)	(-1.39)	(1.43)	(-0.34)	(0.01)
Idirector	-0.001	-0.116	0.016	-0.156	-0.054	-0.317*	0.004	-0.007
	(-0.06)	(-0.81)	(0.22)	(-1.26)	(-0.50)	(-1.76)	(0.32)	(-0.58)
Test: No pay + No pay x Reform = 0								
F-value	0.78	0.02	1.34	0.22	1.24	0.86	11.16***	0.03
Test: Reform + No pay x Reform = 0								
F-value	2.49	11.78***	4.15**	0.30	1.03	0.42	2.94*	21.18***

Observations	4,219	4,219	4,219	4,219	4,219	4,219	4,219	4,219
Adjusted R^2	0.512	0.012	0.832	0.122	0.217	0.065	0.498	0.573
Number of firms	606	606	606	606	606	606	606	606

Table 12 Executive perquisites, firm performance and tunneling

This table presents the results on firm performance and tunneling after controlling the impact of executive perks. Mperk is the abnormal level of administrative expenses estimated by equation (5). T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	ROA (1)	RET (2)	Asset turnover (3)	Sales growth (4)	ΔAssets (5)	ΔEmployees (6)	Transfer (7)	OtherAR (8)
Nopay	0.005**	0.011	0.027**	0.013	0.018	-0.014	-0.006**	-0.001
	(2.16)	(0.56)	(2.34)	(0.54)	(1.32)	(-0.42)	(-2.23)	(-0.47)
Mperk	-0.126***	0.365**	0.337***	0.758***	0.146	0.328	-0.000	-0.012
	(-4.58)	(2.14)	(3.25)	(3.58)	(1.14)	(1.08)	(-0.01)	(-0.40)
Age	0.022**	-0.036	0.011	-0.195**	-0.064	-0.025	0.014	0.004
	(2.42)	(-0.55)	(0.27)	(-2.36)	(-1.33)	(-0.20)	(1.35)	(0.50)
Dual	0.003	0.021	0.013	-0.011	0.028	0.104**	-0.004	0.004
	(1.05)	(0.74)	(0.84)	(-0.39)	(1.48)	(2.19)	(-0.93)	(1.18)
Size	0.012***	-0.021	-0.008	0.115***	0.167***	0.182***	0.005*	0.001
	(4.03)	(-1.22)	(-0.64)	(5.03)	(10.96)	(5.82)	(1.73)	(0.44)
Leverage	-0.173***	-0.040	-0.141***	0.021	-0.148***	-0.067	-0.017	0.062***
	(-17.12)	(-0.66)	(-4.04)	(0.25)	(-3.18)	(-0.62)	(-1.11)	(4.85)
Largest	0.059***	0.012	0.075	0.243	0.229***	0.313*	-0.020	-0.022*
	(4.90)	(0.11)	(1.20)	(1.57)	(2.78)	(1.82)	(-1.36)	(-1.77)
CEO share	1.083*	-3.487	0.653	12.552***	14.165***	-0.649	0.463	-0.486
	(1.89)	(-0.53)	(0.19)	(2.67)	(2.99)	(-0.12)	(1.25)	(-1.35)
Government	0.003	-0.002	-0.018	0.027	0.022	0.064*	0.002	0.001
	(1.07)	(-0.07)	(-1.21)	(0.98)	(1.43)	(1.82)	(0.52)	(0.34)
Idirector	-0.001	-0.261**	-0.091	-0.253**	-0.093	-0.151	0.007	0.011
	(-0.11)	(-2.52)	(-1.39)	(-2.17)	(-1.13)	(-1.02)	(0.43)	(0.72)
Observations	5,930	5,930	5,930	5,930	5,930	5,930	5,930	5,930
Adjusted R^2	0.495	0.012	0.795	0.092	0.241	0.117	0.438	0.552
Number of firms	935	935	935	935	935	935	935	935